Beaconhouse School System

Boys Campus, Canal Side

P1 Work Sheet#3

1 (a) work out $\frac{5}{6} \div 1\frac{1}{3}$ ____ give the answer in simplest form.

(b) (i) Write 9.314×10^5 as an ordinary number. ______________________

(ii) Calculate $(4.2 \times 10^{-3}) \times (2 \times 10^7)$
Give your answer in standard form. ___________________________________

2 The length of one side of a rectangle is **12** cm.
The length of the diagonal of the rectangle is **13** cm.
Calculate the area of the rectangle.

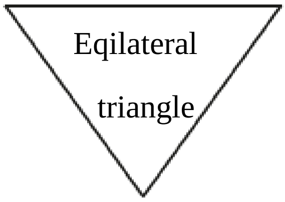
3 (a) Write 48 as the product of its ***prime*** factors.

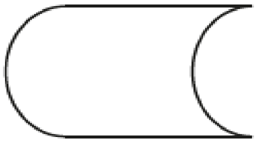
(b) Solve the equation. $\boldsymbol{6 - 2x = 3x}$ ____________________________

4 (a) The complementary angle of $\boldsymbol{72^0}$ is ______________________________________

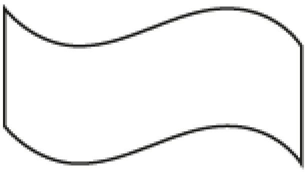
(b) Write down the reciprocal of an even prime number ___________________

5 (a) On each shape draw all the line of symmetry





(b) Write down the order of rotational symmetry of this shape



____

6 Expand and simplify

(a) $(\boldsymbol{x} - \boldsymbol{5})(\boldsymbol{x} - \boldsymbol{7})$

(b) $\boldsymbol{6x} - (\boldsymbol{x} + \boldsymbol{1})(\boldsymbol{3} - \boldsymbol{x})$

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7 **(a)** Change $\mathbf{5.3}$ kilometers into meters ____

(b) Change $0.\mathbf{53}$ **square** centimeters into **square** millimeters. ______________________

8 Write down

(a) a square number greater than **10,** multiple of **4 and 9** ______________________

(b) Write down a prime number which is even too**.** ____________

9 A bag contains yellow balls, pink balls and green balls only.
The ratio $\boldsymbol{yellow\ balls : pink\ balls : green\ balls = 7 : 3 : 5}$.
There are 42 yellow balls in the bag.
Work out the total number of balls in the bag.

10 By rounding each number correct to 1 significant figure, estimate the value of $\dfrac{71 \times 32.4}{4.8^2}$

11 Simplify.

(a) $3a - 5b - a + 2b$ **(b)** $\dfrac{5}{3x} \times \dfrac{9x}{20}$ **(c)** $(27x^9)^{\frac{2}{3}}$

12 The formula for changing a temperature measured in Celsius (°C) to Fahrenheit (°F) is

Make **C** as subject of the formula $\mathrm{F} = \dfrac{9\mathrm{C}}{5} + 32$

13 Insert a pair of brackets so that it satisfies the statement $\mathbf{9 + 5 \times 7 - 4 \div 2 = 20}$**.**

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14 This is Edha’s method to work out 99×27

without using a calculator.

$$\begin{aligned} 99\times27 &= 100\times27-27 \\ &= 2700-27 \\ &= 2673 \end{aligned}$$

Show how to use Edha’s method to work out 99×68

without using a calculator

15 **(a)** Write 5.26 pm using the 24-hour clock. ______________________________

(b) A journey starts at **21 15** one day and ends at **04 33** the next day.
Calculate the time taken, in hours and minutes. ____________________

16 **(a)** Simplify the surds $\mathbf{2\sqrt{3}\left(\sqrt{2}+\sqrt{3}\right)}$ ______________________________

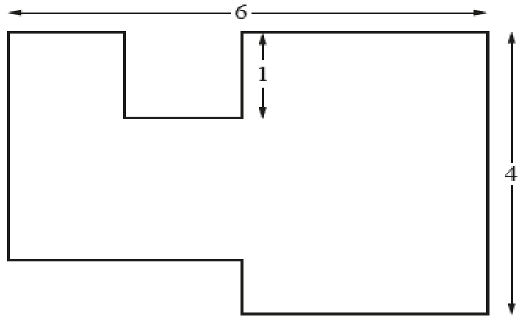
(b) Simplify the surds by rationaling the denominator $\mathbf{\frac{8}{3-\sqrt{5}}}$

17 **(a)** Write down the gradient of the line $2y = 8x + 14$. ______________________

(b) Find the coordinates of the point where the line $\boldsymbol{y = 5x + 7}$ crosses the *y*-axis. (_____, _____)

18 Find the perimeter of the given shape

All the angles are right angles.
All the lengths are in centimetres.



__________ cm

19 **(a)** Express **136** as the product of its prime factors, in index form. ______________________________

(b) Write down two **prime numbers** whose sum is **15**. __________________

(c) Evaluate $\mathbf{10^2 - 10^0}$ ______________________

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